

#L

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1  APPLE.SOUND
2  P.P.
3  SPEAKER EQU $C030
4
5      DSECT
6      ORG $E0
7  NOTECOUNT DS 2
8  Z1COMP DS 2
9  Z2COMP DS 2
10 Z1COUNT DS 2      ;CTL.POIN
    TER
11 Z2COUNT DS 2      ;NOT.USED
12
13 Z1WAVE DS 2      ;OCT.ADJ.
    PULSE.WIDTH
14 Z2WAVE DS 2
15 TIMEFACT DS 1
16 OCTUPUS DS 4
17 TIME1 DS 1
18 TIME5 DS 1
19 TIME3 DS 1
20 TIME7 DS 1
21 TEMP DS 1
22 DEND
23 ORG $1000
24 INIT LDA #$FF
25 STA NOTECOUNT
26 JMP APPLEGO
27
28 SAVECOUNT DS 1
29 LENADJ DS 1
30 APPLEGO EQU *
31 LDA $C000
32 CMP #$DA
33 BNE NOUT
34 LDA $C010
35 RTS
36 NOUT EQU *
37 LDA $C010
38 INC NOTECOUNT
39 LDA NOTECOUNT
40 CMP #12
41 BNE NXTNOTE
42 JMP INIT
43
44 NXTNOTE EQU *
45 GONOTE EQU *
46 LDA NOTECOUNT
47 GET.NOTE.IN.OCTAVE
48 AND #$F
49 ASL A
50
51 PHA
52 TAX
53 LDA NOTETBL,X
54 STA Z1COMP
55 LDA NOTETBL+1,X
56 STA Z1COMP+1
57
58 LDA PWVALUE
59 STA Z1WAVE
60 LDA PWVALUE+1
61 STA Z1WAVE+1
62
63 LDA NOTECOUNT → PLA
64 TAX

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58      LDA    TIMETBL,X
59      STA    OCTUPUS
60      LDA    TIMETBL+1,X
61      STA    OCTUPUS+1
62      LDA    #0
63      STA    LENADJ
64      STA    OCTUPUS+2
65      STA    OCTUPUS+3
66 ;LDA      #$35
67 ;STA      TIMEFACT
68      PLA    —LDA OCTUPUS+1
69      LSR    A
70      LSR    A
71      LSR    A
72      LSR    A
73      ORA    #$F0
74      CLC
75      ADC    #11
76      TAX
77 ;DEX
78      STX    SAVECOUNT
79      DEC    SAVECOUNT
80 OCTLOOP EQU    *
81      LSR    Z1COMP+1
82      ROR    Z1COMP
83 ;LSR      Z2COMP+1
84 ;ROR      Z2COMP
85      LSR    Z1WAVE+1
86      ROR    Z1WAVE
87      DEX
88      BMI    OUTOCTLOOP
89      CPX    SAVECOUNT
90      BEQ    OCTLOOP
91      ASL    OCTUPUS
92      ROL    OCTUPUS+1
93      ROL    OCTUPUS+2
94      ROL    OCTUPUS+3
95      LDA    LENADJ
96      CLC
97      ADC    #22
98      STA    LENADJ
99      JMP    OCTLOOP
100 OCTNEW EQU    *
101 ;
102      JMP    OCTLOOP
103 OUTOCTLOOP EQU *
104      LDA    OCTUPUS
105      SEC
106      SBC    LENADJ
107      BCS    OKLEN1
108      LDA    OCTUPUS+1
109      PHP
110      DEC    OCTUPUS+1
111      PLP
112      BEQ    OKLEN2
113      BNE    OKLEN1
114 OKLEN2 EQU    *
115      LDA    OCTUPUS+2
116      PHP
117      DEC    OCTUPUS+2
118      PLP
119      BNE    OKLEN1
120 OKLEN3 EQU    *

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121      LDA    OCTUPUS+3
122      BEQ    OKLEN1
123      DEC    OCTUPUS+3
124 OKLEN1    EQU    *
125      INC    OCTUPUS+1
126      INC    OCTUPUS+2
127      INC    OCTUPUS+3
128 OKSCNT2   EQU    *
129 :ADJUST.FOR.LOOP.HOUSEKEEPING.TIM

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130      LDA    Z1COMP
131      SEC
132      SBC    #4
133      STA    Z1COMP
134      BCS    OKSC1
135      LDA    Z1COMP+1
136      BEQ    OKSC1
137      DEC    Z1COMP+1
138 OKSC1     EQU    *      ;LDA Z2CO

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MP
139 :SEC
140 :SBC      #4
141 :STA      Z2COMP
142 :BCS      OKSC2
143 :LDA      Z2COMP+1
144 :BEQ      OKSC2
145 :DEC      Z2COMP+1

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146 OKSC2     EQU    *
147      LDA    Z1COMP
148      STA    Z2COMP
149      LDA    Z1COMP+1
150      STA    Z2COMP+1
151 :DO.PULSE.WIDTH

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152      JMP    ENDPWTH
153 TESTPWVER EQU    *
154      LDA    Z1WAVE+1
155      CMP    Z1COMP+1
156      BCC    OKPWC1
157      BNE    PWOVER1

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158      LDA    Z1WAVE
159      CMP    Z1COMP
160      BCC    OKPWC1
161      BEQ    OKPWC1
162 PWOVER1    LDA    Z1WAVE
163      SEC

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164      SBC    Z1COMP
165      STA    Z1WAVE
166      BCS    OKZ1SB1
167      DEC    Z1WAVE+1
168 OKZ1SB1    LDA    Z1WAVE+1
169      SEC

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170      SBC    Z1COMP+1
171      STA    Z1WAVE+1
172      JMP    TESTPWVER

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173 OKPWC1     EQU    *
174      LDA    Z1COMP
175      SEC

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176      SBC    Z1WAVE
177      STA    Z1COMP
178      BCS    OKDOZW
179      DEC    Z1COMP+1
180 OKDOZW     LDA    Z1COMP+1
181      SEC

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182 SBC Z1WAVE+1
183 STA Z1COMP+1
184 LDA Z2COMP

185 CLC
186 ADC Z1WAVE
187 BCC OKDOZW2
188 INC Z2COMP+1
189 OKDOZW2 STA Z2COMP
190 LDA Z2COMP+1

191 CLC
192 ADC Z1WAVE+1
193 STA Z2COMP+1

194 ;END.DO.PULSE.WIDTH

195 ENDPWTH EQU *
196 INC Z1COMP
197 INC Z2COMP
198 INC Z1COMP+1
199 INC Z2COMP+1
200 JMP NEXTWAVE
201 ORGP1 EQU > *
202 DS 256-ORGP1

203 NEXTWAVE EQU *
204 LDA Z1COMP
205 STA Z1WAVE
206 LDA Z2COMP
207 STA Z2WAVE
208 LDA Z1COMP+1
209 STA Z1WAVE+1

210 ;18

211 4 (NOP
212 (NOP
213 LDA SPEAKER

214 ;24.CCS

215 WL1 DEC Z1WAVE
216 BNE WL1
217 DEC Z1WAVE+1
218 BEQ OUTWL1
219 DEC Z1WAVE
220 DEC Z1WAVE
221 DEC Z1WAVE

222 BNE WL1
223 OUTWL1 EQU *
224 ;7.OUT

225 LDA Z2COMP+1
226 STA Z2WAVE+1
227 LDA OCTUPUS

228 CLC
229 SBC TIMEFACT

230 STA OCTUPUS
231 BCS WAVEOK
232 DEC OCTUPUS+1

233 BNE WAVEOK
234 DEC OCTUPUS+2
235 BEQ EXITWAVE

236 WAVEOK EQU *
237 LDA SPEAKER

238 ;31.CCS

239 WL2 DEC Z2WAVE
240 BNE WL2
241 DEC Z2WAVE+1
242 BEQ NEXTWAVE
243 DEC Z2WAVE
244 DEC Z2WAVE

LDY
210 REST
~~INC Z1COMP~~
~~INC Z2COMP~~

BNE

4 T4A
BNE

(20-25) IX COZF, 4

LDX Z1WAVE 3
DEC 5
SBC A3 7
STA Z1WAVE 10

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245	DEC	Z2WAVE
246	BNE	WL2
247	;7.OUT	
248	WAVEOUT	EQU *
249	EXITWAVE	EQU *
250	JMP	NEXTNOTE
251	LDX	##10
252	LDY	##10
253	OL1	DEX
254	BNE	OL1
255	DEY	
256	BNE	OL1
257	JMP	APPLEGO
258	OCTAVE	DFB 1,2,3,4,5
259		DFB 6,7,8,9,10,11,12,13

260	DFB	14
261	PTBL	DFB \$80
262	DFB	\$81
263	DFB	\$82
264	DFB	\$83
265	DFB	\$84
266	DFB	\$85
267	DFB	\$86

268	DFB	\$87
269	DFB	\$88
270	DFB	\$89

271	DFB	\$8A
272	DFB	\$8B
273	DFB	\$8C
274	DFB	\$8D

275	NOTETBL	DW 64814
276		DW 61176
277		DW 57743
278		DW 54502
279		DW 51443
280		DW 48556
281		DW 45830
282		DW 43258

283		DW 40830
284		DW 38539
285		DW 36376

286		DW 34334
287		DW 32407

288	TIMETBL	EQU *
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289		DW 21*2
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290		DW 22*2
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291		DW 23*2
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292		DW 24*2
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		DW 25*2
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		DW 26*2
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		DW 27*2
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		DW 28*2
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		DW 29*2
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		DW 30*2
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		31*2
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		32*2
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